

# Peng Zhang

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

109  
papers

2,954  
citations

29  
h-index

51  
g-index

116  
ext. papers

3,587  
ext. citations

5.6  
avg, IF

5.49  
L-index

#	Paper	IF	Citations
109	Predictive fatigue crack growth law of high-strength steels. <i>Journal of Materials Science and Technology</i> , <b>2022</b> , 100, 46-50	9.1	1
108	Effects of inclusion types on the high-cycle fatigue properties of high-strength steel. <i>Scripta Materialia</i> , <b>2022</b> , 206, 114232	5.6	5
107	A new fatigue crack growth mechanism of high-strength steels. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2022</b> , 840, 142969	5.3	0
106	Relationship between strength and uniform elongation of metals based on an exponential hardening law. <i>Acta Materialia</i> , <b>2022</b> , 231, 117866	8.4	1
105	A general physics-based hardening law for single phase metals. <i>Acta Materialia</i> , <b>2022</b> , 231, 117877	8.4	1
104	Improving the high-cycle fatigue life of a high-strength spring steel for automobiles by suitable shot peening and heat treatment. <i>International Journal of Fatigue</i> , <b>2022</b> , 161, 106891	5	1
103	Examining the effect of the aging state on strength and plasticity of wrought aluminum alloys. <i>Journal of Materials Science and Technology</i> , <b>2022</b> , 122, 54-67	9.1	2
102	Material-independent stress ratio effect on the fatigue crack growth behavior. <i>Engineering Fracture Mechanics</i> , <b>2021</b> , 259, 108116	4.2	0
101	Locating the optimal microstructural state against dynamic perforation by evaluating the strain-rate dependences of strength and hardness. <i>International Journal of Impact Engineering</i> , <b>2021</b> , 152, 103856	4	0
100	A practical model for efficient anti-fatigue design and selection of metallic materials: II. Parameter analysis and fatigue strength improvement. <i>Journal of Materials Science and Technology</i> , <b>2021</b> , 70, 250-287	9.1	6
99	A practical model for efficient anti-fatigue design and selection of metallic materials: I. Model building and fatigue strength prediction. <i>Journal of Materials Science and Technology</i> , <b>2021</b> , 70, 233-249	9.1	7
98	Short fatigue crack growth behavior in 18Ni maraging steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 807, 140844	5.3	1
97	A simultaneous improvement of the strength and plasticity of spring steels by replacing Mo with Si. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2021</b> , 820, 141516	5.3	1
96	A Study on the Surface Integrity of 50CrMnMoVNb Spring Steels with Different Matrix Strengths Processed by Shot Peening. <i>Advanced Engineering Materials</i> , <b>2021</b> , 23, 2100444	3.5	1
95	Predicting the variation of stacking fault energy for binary Cu alloys by first-principles calculations. <i>Journal of Materials Science and Technology</i> , <b>2020</b> , 53, 61-65	9.1	8
94	A fast evaluation method for fatigue strength of maraging steel: The minimum strength principle. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 789, 139659	5.3	2
93	Effect of Build Direction on Fatigue Performance of L-PBF 316L Stainless Steel. <i>Acta Metallurgica Sinica (English Letters)</i> , <b>2020</b> , 33, 539-550	2.5	11

92	Nanoparticle additions promote outstanding fracture toughness and fatigue strength in a cast AlCu alloy. <i>Materials and Design</i> , <b>2020</b> , 186, 108221	8.1	12
91	Investigation on the cracking resistances of different ageing treated 18Ni maraging steels. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2020</b> , 771, 138553	5.3	8
90	Microstructure and fatigue behavior of laser-powder bed fusion austenitic stainless steel. <i>Journal of Materials Science and Technology</i> , <b>2020</b> , 46, 191-200	9.1	6
89	Crack propagation behavior and mechanism of coarse-grained copper in cyclic torsion with axial static tension. <i>International Journal of Fatigue</i> , <b>2020</b> , 131, 105304	5	1
88	The quantitative relationship between fracture toughness and impact toughness in high-strength steels. <i>Engineering Fracture Mechanics</i> , <b>2019</b> , 211, 362-370	4.2	18
87	Size Effects on the Mechanical Properties of Nanoporous Graphene Networks. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1900311	15.6	13
86	Declined Fatigue Crack Propagation Rate of a High-Strength Steel by Electropulsing Treatment. <i>Advanced Engineering Materials</i> , <b>2019</b> , 21, 1801345	3.5	4
85	New method for determining P-S-N curves in terms of equivalent fatigue lives. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , <b>2019</b> , 42, 2340-2353	3	9
84	Torsional Fatigue Cracking and Fracture Behaviors of Cold-Drawn Copper: Effects of Microstructure and Axial Stress. <i>Acta Metallurgica Sinica (English Letters)</i> , <b>2019</b> , 32, 1521-1529	2.5	2
83	A new method to estimate the plane strain fracture toughness of materials. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , <b>2019</b> , 42, 415-424	3	2
82	A novel top-down approach to make bulk nanostructured metal with low stacking fault energy. <i>Materialia</i> , <b>2019</b> , 5, 100201	3.2	0
81	The Relationship between Strength and Toughness in Tempered Steel: Trade-Off or Invariable?. <i>Advanced Engineering Materials</i> , <b>2019</b> , 21, 1801116	3.5	13
80	Improving the fatigue strength of A7N01 aluminum alloy by adjusting Si content. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 742, 15-22	5.3	12
79	Improving the high-cycle fatigue properties of twinning-induced plasticity steel by a novel surface treatment process. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2019</b> , 740-741, 28-33	5.3	8
78	High-cycle fatigue behavior of TWIP steel with graded grains: breaking the rule of mixture. <i>Materials Research Letters</i> , <b>2019</b> , 7, 26-32	7.4	4
77	Simultaneous improvement of strength and plasticity: Additional work-hardening from gradient microstructure. <i>Acta Materialia</i> , <b>2018</b> , 145, 413-428	8.4	93
76	The Minimum Energy Density Criterion for the Competition between Shear and Flat Fracture. <i>Advanced Engineering Materials</i> , <b>2018</b> , 20, 1800150	3.5	6
75	Effective Stacking Fault Energy in Face-Centered Cubic Metals. <i>Acta Metallurgica Sinica (English Letters)</i> , <b>2018</b> , 31, 873-877	2.5	3

74	Temperature-Dependence of the Mechanical Responses for Two Types of Twinning-Induced Plasticity Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2018</b> , 49, 1475-1480	2.3	3
73	Intrinsic impact toughness of relatively high strength alloys. <i>Acta Materialia</i> , <b>2018</b> , 142, 226-235	8.4	20
72	Simultaneous improvement in strength and plasticity of Ti-24Nb-4Zr-8Sn manufactured by selective laser melting. <i>Materials and Design</i> , <b>2018</b> , 157, 52-59	8.1	32
71	Dislocation arrangements within slip bands during fatigue cracking. <i>Materials Characterization</i> , <b>2018</b> , 145, 96-100	3.9	18
70	An optimization criterion for fatigue strength of metallic materials. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 736, 105-110	5.3	8
69	Synchronously improved fatigue strength and fatigue crack growth resistance in twinning-induced plasticity steels. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 711, 533-542	5.3	12
68	Exploring the fatigue strength improvement of Cu-Al alloys. <i>Acta Materialia</i> , <b>2018</b> , 144, 613-626	8.4	38
67	Improving the fatigue strength of 7075 alloy through aging. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 738, 24-30	5.3	31
66	Synchronous improvement of the strength and plasticity of Ni-Co based superalloys. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 736, 100-104	5.3	14
65	Crack propagation mechanisms of AISI 4340 steels with different strength and toughness. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 729, 130-140	5.3	21
64	Evaluating the fatigue cracking risk of surface strengthened 50CrMnMoVNb spring steel with abnormal life time distribution. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2018</b> , 732, 192-204	5.3	13
63	Improvement of low-cycle fatigue resistance in TWIP steel by regulating the grain size and distribution. <i>Acta Materialia</i> , <b>2017</b> , 134, 128-142	8.4	76
62	Formation of nanograins in Ni-Co based superalloys compressed quasistatically at high temperature. <i>Scripta Materialia</i> , <b>2017</b> , 136, 92-96	5.6	2
61	Twin boundary: Controllable interface to fatigue cracking. <i>Journal of Materials Science and Technology</i> , <b>2017</b> , 33, 603-606	9.1	16
60	Deformation behaviors of Cu bicrystals with an inclined twin boundary at multiple scales. <i>Journal of Materials Science and Technology</i> , <b>2017</b> , 33, 698-702	9.1	5
59	Optimizing the fatigue strength of 18Ni maraging steel through ageing treatment. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 707, 674-688	5.3	24
58	Forecasting Low-Cycle Fatigue Performance of Twinning-Induced Plasticity Steels: Difficulty and Attempt. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2017</b> , 48, 5833-5848	2.3	6
57	Improvement of notch fatigue properties of ultra-high CM400 maraging steel through shot peening. <i>Journal of Materials Research</i> , <b>2017</b> , 32, 4424-4432	2.5	6

56	The synchronous improvement of strength and plasticity (SISP) in new Ni-Co based disc superalloys by controlling stacking fault energy. <i>Scientific Reports</i> , <b>2017</b> , 7, 8046	4.9	17
55	Fatigue strength plateau induced by microstructure inhomogeneity. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 702, 259-264	5.3	20
54	Butterfly effect in low-cycle fatigue: Importance of microscopic damage mechanism. <i>Scripta Materialia</i> , <b>2017</b> , 140, 76-81	5.6	12
53	Surface strengthening behaviors of four structural steels processed by surface spinning strengthening. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 704, 262-273	5.3	16
52	Tensile Fracture Modes in Fe-22Mn-0.6C and Fe-30Mn-3Si-3Al Twinning-Induced Plasticity (TWIP) Steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2017</b> , 48, 4458-4462	2.3	13
51	Analytic approximations for the elastic moduli of two-phase materials. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	9
50	Effect of Pre-strain on the Solute Clustering, Mechanical Properties, and Work-Hardening of a Naturally Aged Al-Cu-Mg Alloy. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , <b>2017</b> , 48, 4121-4134	2.3	4
49	The premature necking of twinning-induced plasticity steels. <i>Acta Materialia</i> , <b>2017</b> , 136, 1-10	8.4	32
48	The synchronous improvement of the strength and plasticity of Ni alloys assisted by vacancies. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 680, 405-410	5.3	5
47	High-cycle fatigue properties and damage mechanisms of pre-strained Fe-30Mn-0.9C twinning-induced plasticity steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2017</b> , 679, 258-271	5.3	36
46	Distinct fatigue cracking modes of grain boundaries with coplanar slip systems. <i>Acta Materialia</i> , <b>2016</b> , 120, 120-129	8.4	26
45	Microstructure and Mechanical Properties of High-Nitrogen Austenitic Stainless Steels Subjected to Equal-Channel Angular Pressing. <i>Acta Metallurgica Sinica (English Letters)</i> , <b>2016</b> , 29, 140-149	2.5	19
44	Low-cycle and extremely-low-cycle fatigue behaviors of high-Mn austenitic TRIP/TWIP alloys: Property evaluation, damage mechanisms and life prediction. <i>Acta Materialia</i> , <b>2016</b> , 103, 781-795	8.4	106
43	Exceptional high fatigue strength in Cu-15at.%Al alloy with moderate grain size. <i>Scientific Reports</i> , <b>2016</b> , 6, 27433	4.9	19
42	Cyclic softening behaviors of ultra-fine grained Cu-Zn alloys. <i>Acta Materialia</i> , <b>2016</b> , 121, 331-342	8.4	21
41	Generalized energy failure criterion. <i>Scientific Reports</i> , <b>2016</b> , 6, 23359	4.9	21
40	Revealing the deformation mechanisms of CuAl alloys with high strength and good ductility. <i>Acta Materialia</i> , <b>2016</b> , 110, 61-72	8.4	79
39	The dissociation behavior of dislocation arrays in face centered cubic metals. <i>Computational Materials Science</i> , <b>2016</b> , 124, 384-389	3.2	1

38	A remarkable improvement of low-cycle fatigue resistance of high-Mn austenitic TWIP alloys with similar tensile properties: Importance of slip mode. <i>Acta Materialia</i> , <b>2016</b> , 118, 196-212	8.4	50
37	Strength, damage and fracture behaviors of high-nitrogen austenitic stainless steel processed by high-pressure torsion. <i>Scripta Materialia</i> , <b>2015</b> , 96, 5-8	5.6	32
36	Difference in fatigue cracking behaviors of Cu bicrystals with the same component grains but different twin boundaries. <i>Scripta Materialia</i> , <b>2015</b> , 95, 19-22	5.6	7
35	Extremely-low-cycle fatigue behaviors of Cu and CuAl alloys: Damage mechanisms and life prediction. <i>Acta Materialia</i> , <b>2015</b> , 83, 341-356	8.4	74
34	Stepwise work hardening induced by individual grain boundary in Cu bicrystal micropillars. <i>Scientific Reports</i> , <b>2015</b> , 5, 15631	4.9	9
33	Recovery of strain-hardening rate in Ni-Si alloys. <i>Scientific Reports</i> , <b>2015</b> , 5, 15532	4.9	28
32	Mechanical Properties and Tensile Fracture Mechanisms of FeMn(A, Si) TRIP/TWIP Steels with Different Ferrite Volume Fractions. <i>Advanced Engineering Materials</i> , <b>2015</b> , 17, 1675-1682	3.5	7
31	Shear fatigue cracking of twin boundary and grain boundary without dislocation impingement. <i>Scripta Materialia</i> , <b>2015</b> , 100, 28-31	5.6	6
30	Intrinsically higher fatigue cracking resistance of the penetrable and movable incoherent twin boundary. <i>Scientific Reports</i> , <b>2014</b> , 4, 3744	4.9	15
29	The anisotropy and diverse mechanical properties of rolled Mg $\beta$ % Al $\alpha$ % Zn alloy. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2014</b> , 618, 523-532	5.3	10
28	In situ bending of layered compounds: The role of anisotropy in Ti <sub>2</sub> AlC microcantilevers. <i>Scripta Materialia</i> , <b>2014</b> , 89, 21-24	5.6	6
27	Controllable fatigue cracking mechanisms of copper bicrystals with a coherent twin boundary. <i>Nature Communications</i> , <b>2014</b> , 5, 3536	17.4	51
26	Notch Effect of Materials: Strengthening or Weakening?. <i>Journal of Materials Science and Technology</i> , <b>2014</b> , 30, 599-608	9.1	62
25	Thermal Cycling Effect on the Wear Resistance of Bionic Laser Processed Gray Iron. <i>Journal of Bionic Engineering</i> , <b>2014</b> , 11, 288-295	2.7	7
24	Varying tensile fracture mechanisms of Cu and CuZn alloys with reduced grain size: From necking to shearing instability. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2014</b> , 594, 309-320	5.3	34
23	Competition between slip and twinning in face-centered cubic metals. <i>Journal of Applied Physics</i> , <b>2014</b> , 116, 163512	2.5	36
22	Strain localization and fatigue cracking behaviors of Cu bicrystal with an inclined twin boundary. <i>Acta Materialia</i> , <b>2014</b> , 73, 167-176	8.4	31
21	Effects of dislocation slip mode on high-cycle fatigue behaviors of ultrafine-grained CuZn alloy processed by equal-channel angular pressing. <i>Scripta Materialia</i> , <b>2013</b> , 68, 389-392	5.6	49

20	Optimizing strength and ductility of austenitic stainless steels through equal-channel angular pressing and adding nitrogen element. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2013</b> , 587, 185-191	5.3	26
19	Effect of crystallographic orientation and grain boundary character on fatigue cracking behaviors of coaxial copper bicrystals. <i>Acta Materialia</i> , <b>2013</b> , 61, 425-438	8.4	32
18	Improved fatigue properties of ultrafine-grained copper under cyclic torsion loading. <i>Acta Materialia</i> , <b>2013</b> , 61, 5857-5868	8.4	39
17	Fatigue cracking and fracture behaviors of coarse-grained copper under cyclic tension-compression and torsion loadings. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2013</b> , 574, 113-122	5.3	9
16	Microcompression and cyclic deformation behaviors of coaxial copper bicrystals with a single twin boundary. <i>Scripta Materialia</i> , <b>2013</b> , 69, 199-202	5.6	28
15	Optimizing strength and ductility of CuZn alloys through severe plastic deformation. <i>Scripta Materialia</i> , <b>2012</b> , 67, 871-874	5.6	58
14	Twin boundary: Stronger or weaker interface to resist fatigue cracking?. <i>Scripta Materialia</i> , <b>2012</b> , 66, 854-859	5.6	61
13	Microstructures, strengthening mechanisms and fracture behavior of CuAg alloys processed by high-pressure torsion. <i>Acta Materialia</i> , <b>2012</b> , 60, 269-281	8.4	59
12	Fatigue cracking at twin boundaries: Effects of crystallographic orientation and stacking fault energy. <i>Acta Materialia</i> , <b>2012</b> , 60, 3113-3127	8.4	99
11	Fatigue cracking at twin boundary: Effect of dislocation reactions. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 011907	3.4	10
10	General relationship between strength and hardness. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , <b>2011</b> , 529, 62-73	5.3	592
9	Higher fatigue cracking resistance of twin boundaries than grain boundaries in Cu bicrystals. <i>Scripta Materialia</i> , <b>2011</b> , 65, 505-508	5.6	31
8	Low-cycle fatigue-cracking mechanisms in fcc crystalline materials. <i>Philosophical Magazine</i> , <b>2011</b> , 91, 229-249	1.6	22
7	Tensile Deformation Behaviors of CuNi Alloy Processed by Equal Channel Angular Pressing. <i>Advanced Engineering Materials</i> , <b>2010</b> , 12, 304-311	3.5	6
6	Twin boundaries: Strong or weak?. <i>Scripta Materialia</i> , <b>2008</b> , 59, 1131-1134	5.6	60
5	Cyclic deformation and fatigue cracking behaviour of polycrystalline Cu, Cu10 wt% Zn and Cu2 wt% Zn. <i>Philosophical Magazine</i> , <b>2008</b> , 88, 2487-2503	1.6	21
4	High strength and utilizable ductility of bulk ultrafine-grained CuAl alloys. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 201915	3.4	72
3	Fatigue Behavior of Al-Cu Alloy Subjected to Different Numbers of ECAP Passes. <i>Advanced Engineering Materials</i> , <b>2007</b> , 9, 860-866	3.5	16

2	Influence of shot peening on high cycle fatigue properties of the high-strength wrought magnesium alloy AZ80. <i>Scripta Materialia</i> , <b>2005</b> , 52, 485-490	5.6	126
1	Effects of Heat Treatment on Fatigue Properties of Double Vacuum Smelting High-Carbon Chromium-Bearing Steel. <i>Advanced Engineering Materials</i> , 2200151	3.5	0